

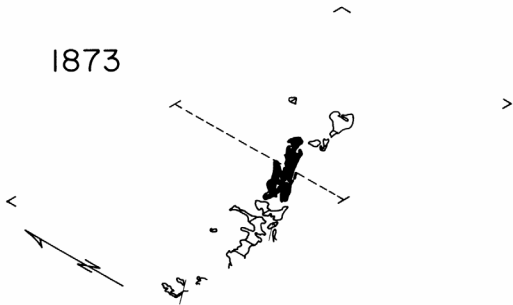
## **Chapter A**

### **Overlay of Meanders of Grassy Key**

**A12**

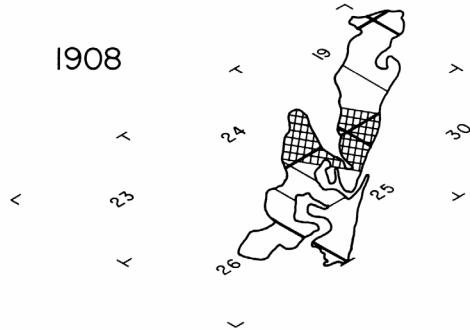
## History of Surveys

1873



**1873** Charles F. Smith surveyed Tps. 65 S., Rs. 33 and 34 E., in February 1873. These townships are located in the Florida Keys. One of these coral islands is known as Grassy Key. Pertinent portions of the plats approved June 30, 1874 are illustrated in figure 1,

1908



**1908** After Grassy Key was patented a survey of "Crain's Subdivision of Grassy Key" was made by T.E. Fredericks and recorded in Monroe County on June 22, 1908. The map indicates that Crain's subdivision is located in sections 24, 25 and 26, T. 65 S., R. 33 E. A portion of the map is illustrated in figure 2.

**1946** Karl Squires surveyed Lot 2, section 19, and Lot 1, section 30, T. 65 S., R. 34 E. at the request of the owners of those lots, Paul H. Marks and Robert R. Pentland. The Squires survey indicated that a large part of Crain's subdivision was located across the range line in sections 19 and 30. The Squires map is shown in figure 3.

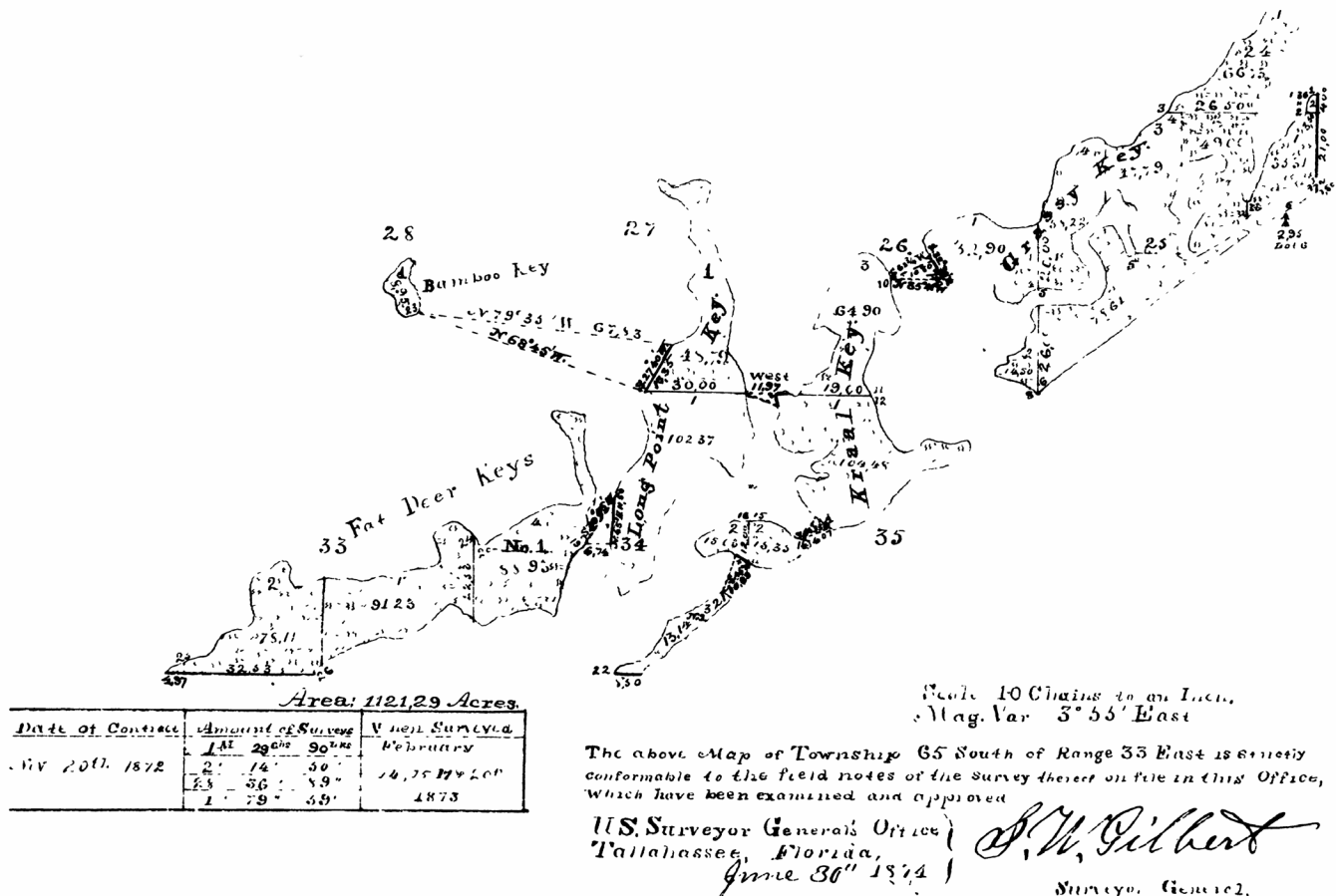
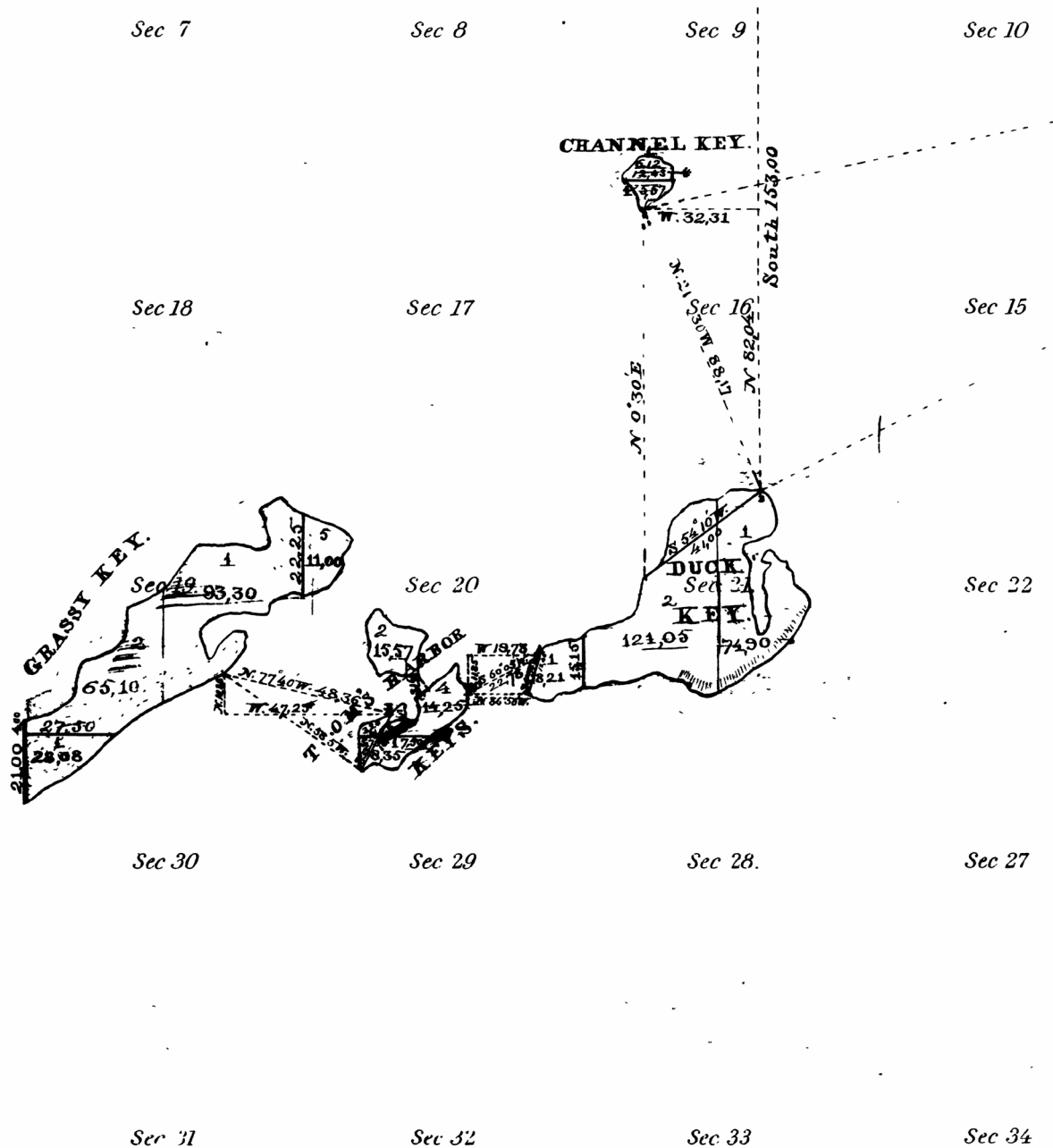


Figure 1(a)



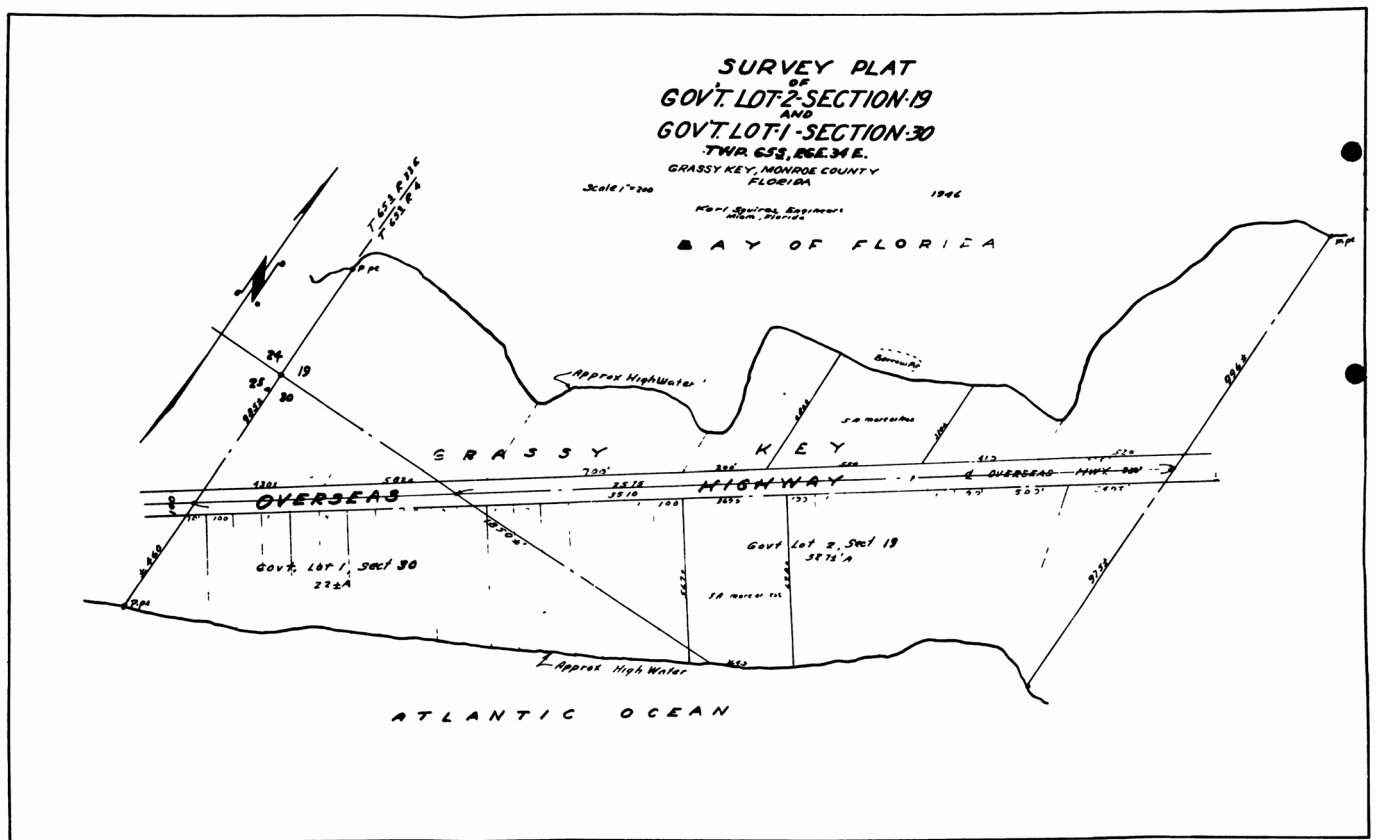
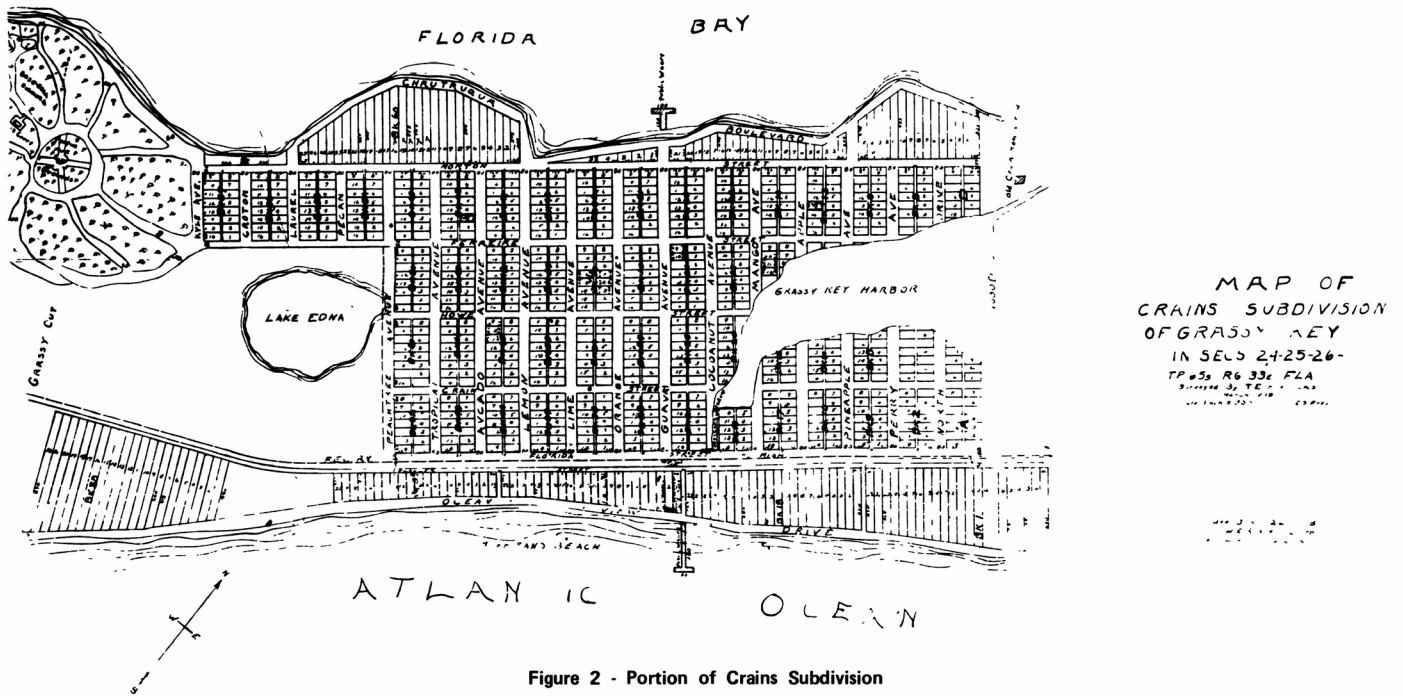
\* By calculation .

n O o P p Q q

Total number of Acres 464.70

Survey Designated	Whom Surveyed	Date of Contract	Amount of Survey	When Surveyed
Township lines			M Ch' Lk'	
Subdivisions	Chas F. Smith	Nov 20 <sup>th</sup> 1872	78. 15.	Feb 11 <sup>th</sup> 12 <sup>th</sup> 13 <sup>th</sup>
Meanders-			10. 23. 41.	1873-
Triangulations			8. 24. 04.	

Figure 1(b)



### **Reasons for Request of this Survey**

The lots and blocks in Crain's subdivision are owned by a large number of different people. Marks and Pentland were attempting to develop their land in sections 19 and 30. The Squires survey provided them no conclusive results and was open to contention.

The original survey monuments, which were posts in mounds of stone, had long since been washed away by hurricanes. No evidence of them remained.

The Monroe County Surveyor refused to attempt to resolve the dispute and suggested that the only way to settle the matter was to have the Bureau of Land Management resurvey sections 19, 24, 25 and 30.

Marks requested the Washington Office to execute a resurvey of Grassy Key and restore the disputed section corner. Because all of the land is patented, Marks' request was refused on the grounds that the BLM had no jurisdiction and could not resolve local disputes. Marks was informed of the provisions of the Act of September 21, 1918, 40 Stat. 965. This act states that a resurvey can be made upon application by three-fourths of the owners of the privately owned lands within a township, or upon application by a court of competent jurisdiction. The applicants pay the cost of such a resurvey.

Pentland and Marks filed a Bill of Complaint (petition) with the Circuit Court of the Eleventh Judicial circuit, Monroe County, Florida, asking the court to request the desired resurvey by the BLM. On March 31, 1948, the formal request was made by an Order of Aquilino Lopez, Jr., Circuit Judge of the Florida courts in the case of Robert R. Pentland, Jr., et al., vs. William Patton, et al., No. 11-246. The order contained a defective description which was corrected on July 29, 1949. The estimated cost of the survey, \$900, was deposited by Pentland and Marks.

### **Special Instructions**

Special Instructions for Group 109, Florida, prepared on January 17, 1950, provided for a limited dependent resurvey and the retracements necessary to restore the lost corner of sections 19, 24, 25 and 30 and, to a limited extent, other lines that might be required to satisfy the needs of Judge Lopez and Mr. Marks. The work was assigned on January 20 and begun on January 31, 1950.

### **Conditions Found on the Ground**

Examination confirmed that no evidence of any kind remained of the original survey monuments. The record meanders of Grassy Key were carefully plotted to scale, as indicated in figure 4. This sketch was then used as an overlay on the U.S. Coast and Geodetic Survey Topographic Map No. T -5542. A portion of this map is shown in figure 5. A comparison of the record meanders and the "T -sheet" revealed that the original meanders had been well and accurately run, if allowance was made for extensive erosion along the southeasterly, or ocean, side of Grassy Key, which is an open beach.

Observations of the tides were made to determine as nearly as practicable the mean high water line. Grassy Key was remeandered in sections 19, 20, 30 and 24 and the east half of section 25. The point established by Squires was tied to these new meanders. The shore line conditions and new meanders are shown in figure 6. Squires had died so there was no way to conclusively determine how he had arrived at his corner point. Apparently he attempted to use the existing shore line and the original calls to arrive at that location.

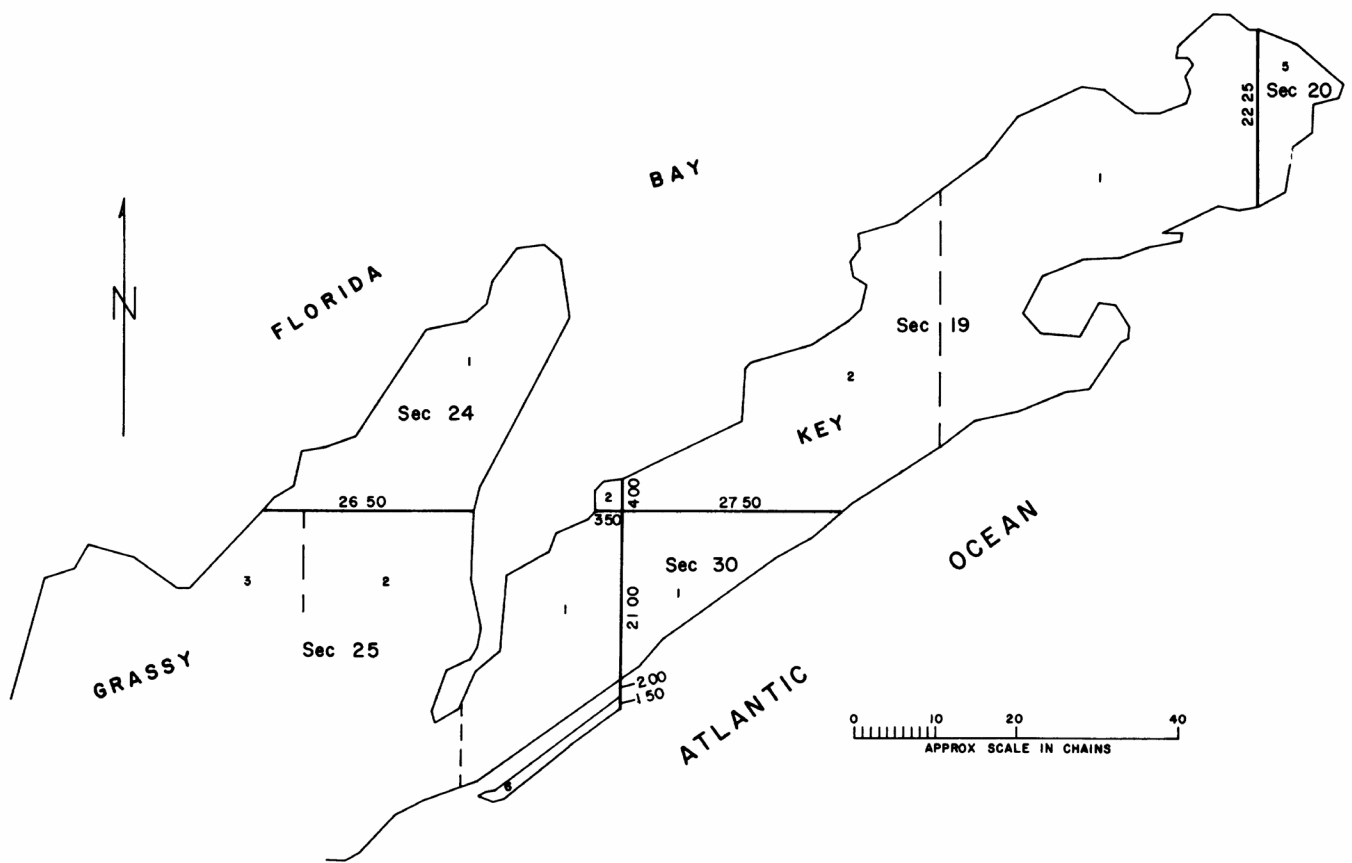
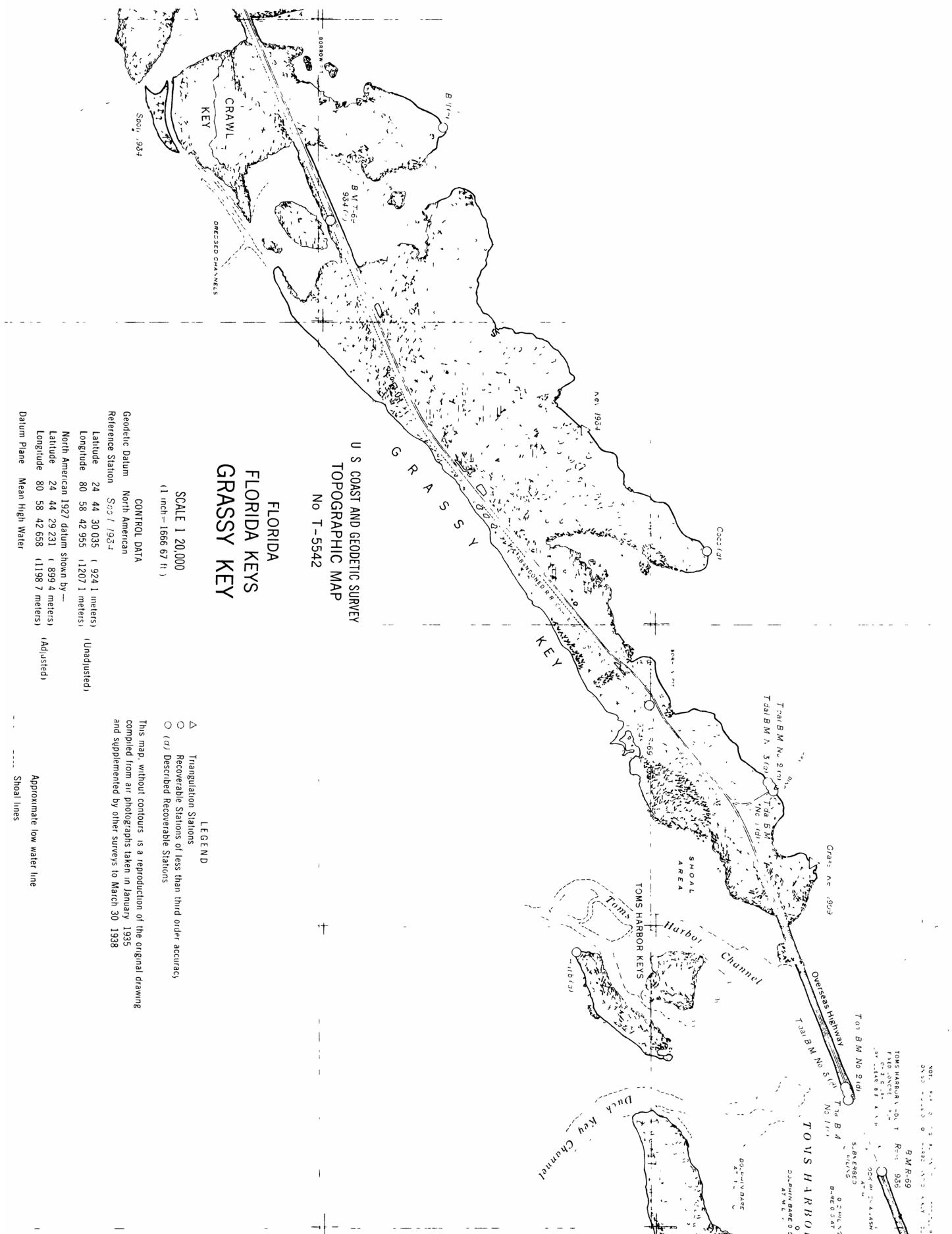


Figure 4 - Record Meanders



### **Preliminary Statement of the Problem**

With no remaining evidence of the original monuments and no valid perpetuations of them, the problem is how to restore the section lines in their original position, as nearly as may be.

### **Regulations**

All of the lands involved in this case are privately owned and would normally be subject to state law and the local courts. The local court has requested the government resurvey presumably to insure use of the same methods which would be employed if the lands were public domain. Chapters 5 and 6 of the Manual of Surveying Instructions, 1973, are applicable. In this instance and this particular situation, sections 5-29, 5-40 and 5-45 are particularly applicable.

### **Legal Constraints**

The resurvey must comply with good surveying practice and is limited to only those lines necessary to fulfill the needs of the court.

### **Final Statement of the Problem**

The surveyor must decide what is the best remaining evidence and use that evidence to fix the corner location.

### **Solution**

The original meanders of Grassy Key were carefully drawn to a large scale as indicated in figure 4. One course in section 19 was erroneously recorded as S. 55° W., 5.00 chains instead of N. 55° W. Conflicts between the plat and field notes were resolved on three courses in section 24 during the plotting. The new meanders were carefully plotted to the same large scale on an overlay. The overlay was shifted around for a logical fit. The old and new meanders fit very well along the abrupt coral ledges in sections 19 and 24. Along the Atlantic Ocean shore there was a general conformation but extensive erosion and filling (accretion) had taken place.

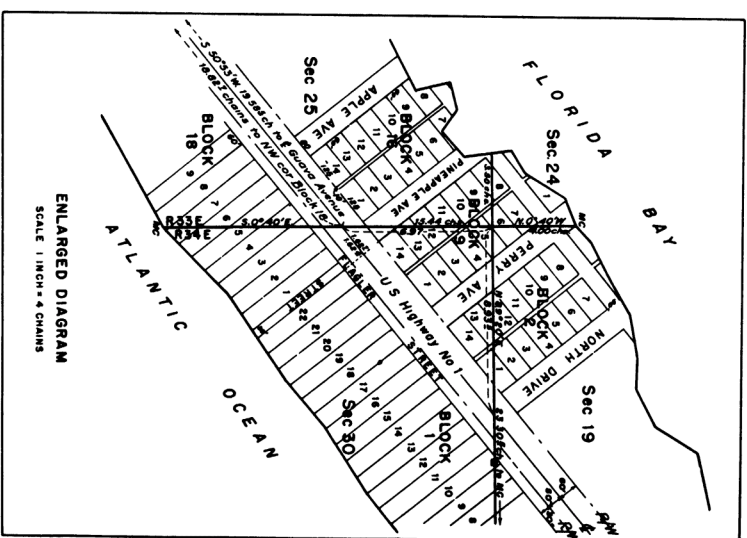
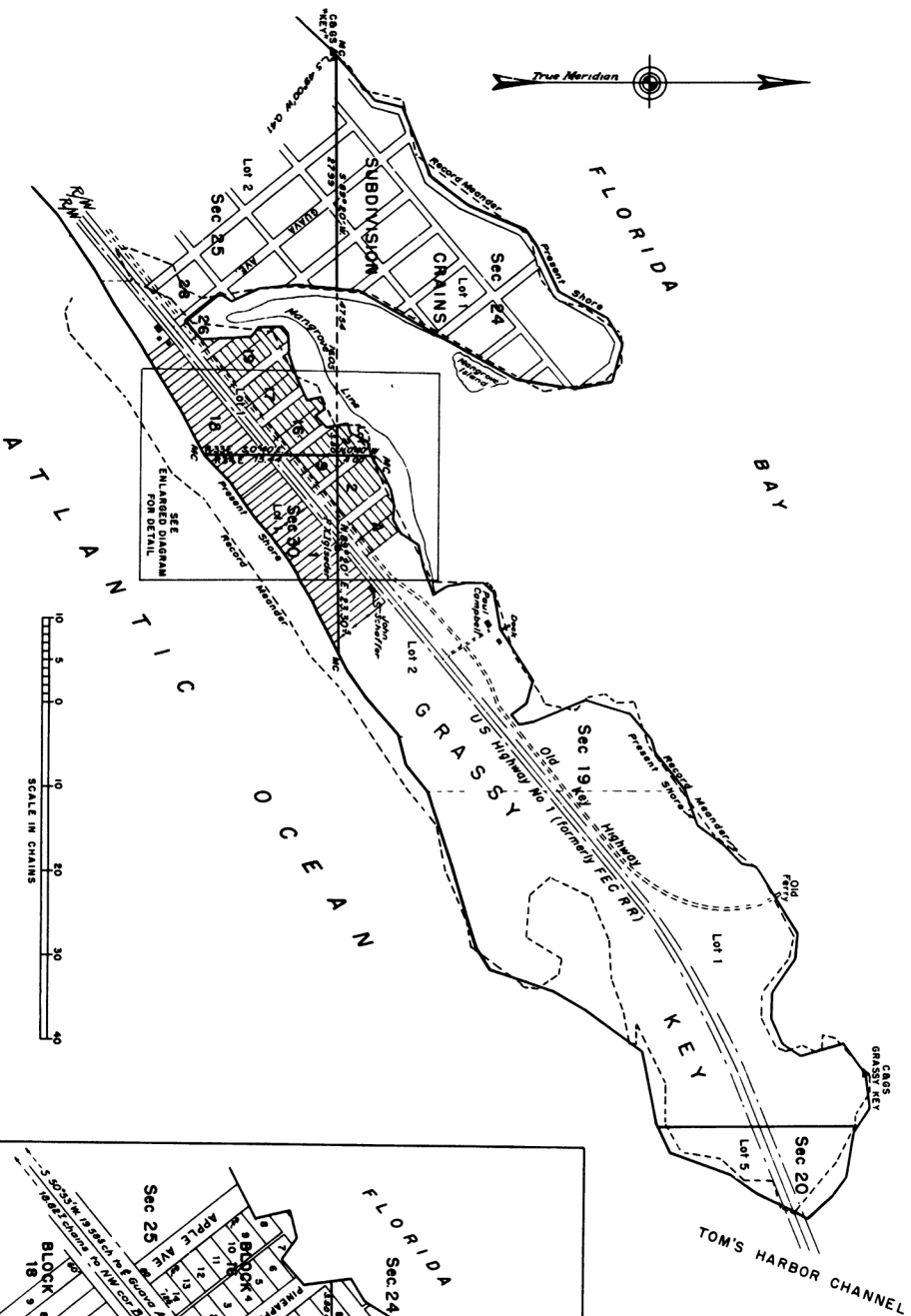
Section 5-40 of the Manual of Surveying Instructions, 1973, second paragraph, allows restoration of lost meander corners by treating the shore line as an identified natural feature under "favorable conditions." The stability of the land or shore line is a deciding factor as is the conformity of the record to the physical shoreline.

The record bearings of the meanders did not fit over a long distance but a rotation of 0° 40' in angle, to the left, provided an acceptable fit of the new meanders to the old and pin-pointed the position of the section corner. This average rotation of 0° 40' in angle was then carried through the resurvey to restore the section lines and meander corners. This "index correction" as outlined in section 5-45 of the Manual of Surveying Instructions, 1973, was applicable only to the bearing of the section lines in this particular situation.

After the resurvey was completed, ties were made to existing corners and evidence of Crain's subdivision as represented in figure 2. The Squires location of the section corner was tied in. This point was located S. 47° 24' W., 7.32 chains from the restored corner of sections 19, 24, 25 and 30. Pertinent buildings and improvements were tied to the resurveyed lines to show their positions and assist the court. The plat was accepted April 27, 1950 and is shown in figure 7.



# TOWNSHIPS 65 SOUTH, RANGES 33 AND 34 EAST, TALLAHASSEE MERIDIAN, FLORIDA LIMITED DEPENDENT RESURVEY, SECTIONS 19, 24, 25 AND 30



This plat represents a resurvey and reestablishment of portions of the original township boundary and subdivision lines designed to reestablish the original township and subdivision lines. The plat is the best available evidence of the original survey. The plat is the best available evidence of the original survey. The plat is the best available evidence of the original survey.

Survey executed by *Borville B. Shaver*, Cadastral Engineer, from January 31 to February 9, 1990, pursuant to special instructions for Group 109, Florida, dated January 17, 1990.

This plat is officially confirmed to the approved title notes, and the survey, having been conducted in accordance with the requirements of law and the regulations of this Bureau, is hereby accepted.

For the Director

*Wm. T. Blum*  
Chief, Branch of Surveys

Figure 7 - Accepted Plat